ABSTRACT OF THE DISCLOSURE

A system includes a shared memory; a memory interface unit coupled to the shared memory and operable to retrieve data from the shared memory at requested addresses, and to write data to the shared memory at requested addresses; and a plurality of processing units in communication with the memory interface and operable to (i) instruct the memory interface unit that data be loaded with reservation from the shared memory at a specified address such that any operations may be performed on the data, and (ii) instruct the memory interface unit that the data be stored in the shared memory at the specified address, wherein at least one of the processing units includes a status register having one or more bits indicating whether a reservation was lost: whether the data at the specified address in shared memory was modified.

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